ACTA PHYSIOLOGICA SCANDINAVICA

EDITORIAL BOARD

Chief Editor

B. Uvnäs Stockholm

National Editors

N. A. Thorn København

J. Leppäluoto Oulu

T. Lømo Oslo

B. Fredholm Stockholm

Volume 142 1991 Pages 1-543

Published for the
SCANDINAVIAN PHYSIOLOGICAL SOCIETY by
BLACKWELL SCIENTIFIC PUBLICATIONS
OXFORD LONDON EDINBURGH BOSTON MELBOURNE
PARIS BERLIN VIENNA

Published for the Scandinavian Physiological Society by Blackwell Scientific Publications Osney Mead, Oxford OX2 oEL 25 John Street, London WC1N 2BL 23 Ainslie Place, Edinburgh EH3 6AJ 3 Cambridge Center, Suite 208, Cambridge, MA 02142, USA 54 University Street, Carlton, Victoria 3053, Australia be addressed to the Editor. 0001-6772/91 \$05.00. Meinekestrasse 4, D-1000 Berlin 14, West Germany 2 rue Casmir Delavigne, 75005 Paris, France Feldgasse 13, A-1238 Vienna, Austria

Authorization to photocopy items for internal or personal use, or the internal or personal use of specific clients, is granted by the Scandinavian Physiological Society for libraries and other users registered with the Copyright Clearance Center (CCC) Transactional Reporting Service, provided that the base fee of \$05.00 per copy is paid directly to CCC, 27 Congress Street, Salem, MA 01970, USA. Special requests should

© 1991 Scandinavian Physiological Society

Printed in Great Britain by the University Press, Cambridge

Contents

VOLUME 142, NUMBER 1, MAY 1991

from needle-biopsies

AARLI, V., REED, R. K. & AUKLAND, K. Effect of longstanding venous stasis and hypoproteinaemia on lymph flow in the rat tail	
Maspers, M. & Björnberg, J. Beta ₂ -adrenergic attenuation of capillary pressure autoregulation during haemorrhagic hypotension, a mechanism promoting transcapillary fluid absorption	1
in skeletal muscle	11
GRANSTAM, E. & NILSSON, S. F. E. Effects of cervical sympathetic nerve stimulation and neuropeptide Y (NPY) on cranial blood flow in the cat	21
WAALER, B. A., ERIKSEN, M. & TOSKA, K. The effect of meal size on postprandial increase in cardiac output	
USHA RAJ, J., KAAPA, P., HILLYARD, R. & ANDERSON, J. Pulmonary vascular pressure profile	33
in adult ferrets: measurements in vivo and in isolated lungs GODDEN, D. J., BAILE, E. M. & PARÉ, P. D. A comparison of laser Doppler flowmetry with the	40
radiolabelled microsphere reference flow technique to measure tracheal blood flow in dogs Byström, S. & Sjøgaard, G. Potassium homeostasis during and following exhaustive	49
submaximal static handgrip contractions	59
RYDQVIST, B. & PURALI, N. Potential-dependent potassium currents in the rapidly adapting stretch receptor neuron of the crayfish	67
LINDGREN, S. & ANDERSSON, KE. Effects of selective phosphodiesterase inhibitors on isolated coronary, lung and renal arteries from man and rat	77
VAN DER PLOEG, I., FREDHOLM, B. B., CARLQUIST, M., BERTORELLO, A., APERIA, A. & CELSI, G. Localization of several G-protein subunits to the apical and basolateral membranes of	
cortical tubular cells from the rat kidney JACOBSSON, L., GRUNDSTRÖM, N. & ANDERSSON, R. G. G. Influence of some α ₂ -receptor	83
agonists and antagonists on the excitatory non-adrenergic, non-cholinergic neuro- transmission in the airways of guinea-pigs in vivo	91
Ballarín, M., Fredholm, B. B., Ambrosio, S. & Mahy, N. Extracellular levels of adenosine and its metabolites in the striatum of awake rats: inhibition of uptake and metabolism	97
CHARLETY, P. J., GRENHOFF, J., CHERGUI, K., DE LA CHAPELLE, B., BUDA, M., SVENSSON, T. H. & CHOUVET, G. Burst firing of mesencephalic dopamine neurons is inhibited by	
somatodendritic application of kynurenate ARLOCK, P., NOBLE, M. I. M. & WOHLFART, B. Cardiac cell membrane repolarization is	107
required for onset of mechanical restitution in papillary muscle	113
KARLSSON, JA., ZACKRISSON, C., SJÖLIN, C. & FORSBERG, K. Cigarette smoke-induced changes in guinea-pig responsiveness to histamine and citric acid	119
SJÖQVIST, A. Interaction between antisecretory opioid and sympathetic mechanisms in the rat	
small intestine	127
Rapid Communications	
IUEL, C. Human muscle lactate transport can be studied in sarcolemmal giant vesicles made	

GOLLNICK, P. D., KÖRGE, P., KARPAKKA, J. & SALTIN, B. Elongation of skeletal muscle

133

relaxation during exercise is linked to reduced calcium uptake by the sarcoplasmic	
reticulum in man	135
Instructions to Authors	137
VOLUME 142, NUMBER 2, JUNE 1991	
Neppl, H., Neuhof, H., Afflerbach, R., Llach Puig Neppl, J. & Berhöfer, A. Bradykinin-induced oedema formation proceeds from B receptor stimulation and is potentiated by	
concomitantly released prostaglandins AUBERSON, S., LACROIX, J. S., MOREL, D. R., LEHMANN, W. & LUNDBERG, J. M. Methylene blue attenuates vasodilation and enhances vasoconstriction in response to endothelin-1 in	141
the pig nasal mucosa Virta, E., Kangas, S., Tolonen, R., Schultz, T., Salo, A. & Uusitalo, H. Neurokinin A in the parotid and submandibular glands of the rat: immunohistochemical localization and	149
effect on protein and peroxidase secretion ARNER, M. & HÖGESTÄTT, E. D. Endothelium-dependent relaxation and effects of prostacyclin,	157
endothelin and platelet-activating factor in human hand veins and arteries UVNÄS, B., ÅBORG, CH., LYSSARIDES, L. & DANIELSON, L. G. Juxtacellular histamine	165
concentration governs histamine release from rat peritoneal mast cells Ekström, P. A. R., Wallin, M., Kanje, M. & Edström, A. A calmodulin inhibitor with high specificity, compound 48/80, inhibits axonal transport in frog nerves without disruption	173
of axonal microtubules Lou, YP., Karlsson, J. A., Franco-Cereceda, A. & Lundberg, J. M. Selectivity of ruthenium red in inhibiting broncho-constriction and CGRP release induced by afferent	181
C-fibre activation in the guinea-pig lung FAGIUS, J. & KAY, R. Low ambient temperature increases baroflex-governed sympathetic	191
outflow to muscle vessels in humans Mörner, S. E. J. N. & Wohlefart, B. The action of 2,3-butane-dionemonoxime on the	201
inotropic state in guinea-pig myocardium Persson, P. B., Ehmke, H. & Kirchheim, H. R. Blood pressure control in arterial- and	211
cardipulmonary receptor denervated dogs TJØLSEN, A., BERGE, OG. & HOLE, K. Lesions of bulbo-spinal serotonergic or noradrenergic	221
pathways reduce nociception as measures by the formalin test Jansson, T. The microsphere technique in anaesthetized and awake pregnant guinea-pigs:	229
reproducibility of repeated blood flow measurements Khasar, S. & Oriowo, M. A. Vascular smooth muscle sensitivity to noradrenaline is reduced	237
during an infection with <i>trypanosoma brucei</i> in rats and rabbits Andréasson, K., Galuska, D., Thörne, A., Sonnenfeld, T. & Wallberg-Henrikson, H. Decreased insulin-stimulated 3-O-methylglucose transport as in <i>in vitro</i> incubated muscle	247
strips from type 11 diabetic subjects	255
OSADA, H. The effects of hypobaric hypoxia (50.6 kPa) on blood components in guinea-pigs LJUNGGREN, Ö., FREDHOLM, B. B. & LERNER, U. H. On the role of polyamines on bone	261
resorption induced by parathyroid hormone SAHLIN, K., ЕКВЕRG, K. & CIZINSKY, S. Changes in plasma hypoxanthine and free radical	267
markers during exercise in man SALOMONSSON, M., GONZALEZ, E., WESTERLUND, P. & PERSSON, A. E. G. Intracellular systolic free calcium concentration in the macula densa and in ascending limb cells at different	275
luminal concentration of sodium chloride and with added furosemide	283

TANTISIRA, M. H., JODAL, M. & LUNDGREN, O. On the mechanisms of the basal alkaline secretion in the rat ileum in vivo	291
Rapid Communication	
DENIS, C., DORMOIS, D., LINOSSIER, MT., GEYSSANT, A. & LACOUR, JR. Total muscle NADH during 30-min submaximal exercise: effects of endurance training	301
VOLUME 142, NUMBER 3, JULY 1991	
VIRTANEN, P., VÄÄNÄNEN, H. K., PASANEN, L., LÄHDES, S., PURANEN, J. & TAKALA, T. E. S. Effect of immobilization on carbonic anhydrase III and myoglobin content on human leg muscle	202
TAYLOR, N. A. S. & MORRISON, J. B. Pulmonary flow-resistive work during hydrostatic	303
loading MATZEN, S., SCHIFTER, S., RADVANSKY, J., KNIGGE, U., WARBERG, J. & SECHER, N. H. Calcitonin gene-related peptide (CGRP) and leg vascular resistance during head-up tilt	307
induced hypovolaemic shock in man JOHNSSON, E., FOLKOW, B. & KARLSTRÖM, G. Myogenic responsiveness in rat hindquarter vessels during constant flow and constant-pressure perfusion in vitro; effects of various	313
potassium concentrations and of endothelial nitrous oxide blockade Björnberg, J. & Maspers, M. Comparative studies of the venous resistance and capacitance	319
functions and their sympathetic regulation in skeletal muscle	329
SALDEEN, K., NICHOLS, W., LAWSON, D., ANDERSSON, R., SALDEEN, T. & MEHTA, J. Fibrin(ogen) degradation product peptide 6A increases femoral artery blood flow in dogs	339
Greiff, L., Erjefält, I., Pipkorn, U. & Persson, C. G. A. Effects of airway luminal concentration of albumin on histamine-induced muscosal exudation of radio-iodine labelled albumen	245
LINDÉN, A., LÖFDAHL, C. G., ULLMAN, A. & SKOOGH, B. E. In vitro characteristics of	345
spontaneous airway tone in the guinea-pig SJÖQVIST, A. & BEEUWKES III, R. Antisecretory effect of splanchnic nerve stimulation on	351
choleratoxin-induced secretion in the cat, and effect mediated at the crypts JÖNSON, C., HAMLET, A. & FÄNDRIKS, L. Hypovolaemia inhibits acid-induced alkaline	359
transport in the rat duodenum via an alpha-2 adrenergic mechanism Nobles, M., Diener, M., Mestres, P. & Rummel, W. Segmental heterogeneity of the rat colon in the response to activators of secretion on the cAMP-, the cGMP- and the Ca ²⁺ -	367
pathway Jonas, A., Diver-Haber, A. & Yahav, J. Adaptive response of ileal mucosa to malnutrition	375
in the rat: role of polyamines	387
KARLSSON, S. & AHRÉN, B. Cholecystokinin-stimulated insulin secretion and protein kinase C in rat pancreatic islets	397
VIKMAN, HL., RANTA, S., KIVILUOTO, T. & OHISALO, J. J. Different metabolic regulation by adenosine in omental and subcutaneous adipose tissue	
SCHMID, K., BÖHMER, G. & GEBAUER, K. GABA, receptor mediated fast synaptic inhibition	405
in the rabbit brain-stem respiratory system MacDougall, J. D., Green, H. J., Sutton, J. R., Coates, G., Cymerman, A., Young, P. & Houston, C. S. Operation Everest II: structural adaptations in skeletal muscle in response	411
to extreme simulated altitude ALEXANDROV Y I GRINCHENKO Y V LAUKKA S LÄRVILEHTO T & MAZ V N Acute	421

effects of alcohol on unit activity in the motor cortex of freely moving rabbits: comparison with the limbic cortex	429
JOKINEN, E., VÄLIMÄKI, I., MARNIEMI, J., SEPPÄNEN, A., IRJALA, K. & SIMELL, O. Children	429
in sauna: hormonal adjustments to intensive short thermal stress	437
VOLUME 142, NUMBER 4, AUGUST 1991	
HURME, T., LEHTO, M., FALCKS, B., TAINO, H. & KALIMO, H. Electromyography and	
morphology during regeneration of muscle injury in rats Gerdle, B., Henriksson-Larsén, K., Lorentzon, R. & Wretling, ML. Dependence of the	443
mean power frequency of the electromyogram on muscle force and fibre type	457
GRUBBSTRÖM, J., BERGLUND, B. & KAIJSER, L. Myocardial blood flow and lactate metabolism	137
at rest and during exercise with reduced arterial oxygen content	467
BRISMAR, T. In vitro analysis of intracellular thallium-201 accumulation in skeletal muscle of the rat	
HASSI, J., RINTAMÄKI, H., RUSKOAHO, H., LEPPÄLUOTO, J. & VUOLTEENAHO, O. Plasma levels	475
of endothlin-1 and atrial natriuretic peptide in men during a 2-hour stay in a cold room	481
FRIED, G., WIKSTRÖM, LM., FRANCK, J. & RÖKAEUS, Å. Alanin and neuropeptide Y in	
chromaffin granules from the guinea-pig ZERAN, M., GOBBETTI, A. & POLZONETI-MAGNI, A. <i>In vitro</i> steroid production by follicles of	487
Rana esculenta: mammalian gonadotropin-releasing hormone effects	495
FAZEKAS, A., OLGART, L. GAZELIUS, B., KEREZOUDIS, N. & EDWALL, L. Effects of angiotensin	173
II on blood flow in rat submandibular glands	503
AXELSSON, M., FRITSCHE, R., HOLMGREN, S., GROVE, D. J. & NILSSON, S. Gut blood flow in the estuarine crocodile, <i>Crocodylus porosus</i>	500
Bojö, L., Nellgård, P. & Cassuto, J. Effects of selective adrenergic agonists and antagonists	509
on gastric tone in the rat	517
Rapid communications	
FRIDÉN, J., LIEBER, R. L. & THORNELL, LE. Subtle indications of muscle damage following	
eccentric contractions Volume H. Murra M. & Irroyana V. Oridative stress in skeletal muscle atrophied by	523
KONDO, H., MIURA, M. & ITOKAWA, Y. Oxidative stress in skeletal muscle atrophied by immobilization	525
WENNMALM, Å., PETERSSON, AS. Endothelium-independent vascular relaxation by histamine	3-3
in the rabbit aorta	527
WENNMALM, Å. & SANDGREN, G. Metabolic and myogenic components of reactive hyperaemia in the human calf	# 20
Announcements	529 531
AUTHOR AND SUBJECT INDEX	533

